

Two new genera and four new species of Mydidae (Diptera) from Madagascar

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Abstract

Two new genera and four new species of Mydidae are described from Madagascar. *Hessemydas* new genus, is proposed to include *Leptomydas seyrigi* Séguy, n. comb., *H. tular*, n. sp., *H. parkeri*, n. sp.; and *Mahafalymydas* n. gen., is proposed for *M. wiegmanni* n. sp. and *M. tuckeri* n. sp.

Key words: Taxonomy, Mydidae, Madagascar, new genera, new species

Introduction

Mydidae are a worldwide group of brachyceran flies comprising about 54 genera and 360 species. A rich and diverse assemblage of mydids inhabits the Afrotropical Region (Bowden 1980). No complete revision is available for the region, but Hesse (1969, 1972) provided rather exhaustive reviews of the southern and southwest African mydids. In these two publications, he described numerous new genera and species, with many being apparently limited in distribution.

As Stuckenberg (2002) indicated, the Diptera fauna of Madagascar, an ancient, continental part of Gondwana, is “strangely unbalanced.” Previous to this study, only one species of Mydidae, *Afroleptomydas seyrigi* (Séguy) was recognized as occurring on the island (Bowden 1980). Séguy (1960) originally described this species from a single male collected at Behara, in the South of the island. Bowden (1980) transferred this species from *Leptomydas* Gerstaecker into the large Afrotropical Syllegomydini genus *Afroleptomydas* Bequaert without comment. However, clearly as Séguy’s (1960) original illustra-

tion of the wing of *seyrigi* illustrates, M1 ends in C, a primary character of the Leptomydinae Papavero and Wilcox (Papavero and Wilcox 1974, Richter 1997), indicating that *L. seyrigi* should remain in this subfamily. The male and female terminalia of *Leptomydas* are of a distinct type, and have been described by Bequaert (1961a, 1961b), Richter and Ovshinnikova (1996), and Richter (1997). Additionally, in the Syllegomydinae, the phallus tip is bifid (Richter 1997), a condition absent in the two species described below and presumably in *L. seyrigi*. *Leptomydas seyrigi* and two undescribed similar species collected in Madagascar by M.E. Irwin do not fit into any known genus of the Leptomydinae from the Afrotropical Region (Hesse 1969, 1972, Bowden 1980).

Extensive Malaise trapping in Madagascar by M.E. Irwin has also resulted in the discovery of another distinctive new genus and new species of Mydidae, that are described below. All specimens referred to in this paper are deposited in the California Academy of Sciences, San Francisco, except where noted.

Taxonomy

Hessemydas, gen. nov.

Type species: *Hessemydas parkeri* sp. nov.

Head: Proboscis with elongate prementum, subequal to length of labella. Antennae typical of subfamily, apicoflagellomere expanded, clavate, with apical knob (Figs. 1, 6).

Wing: Sc and R1 long, costa ending at M1; R5 ending in R1 closing cell R4.

Male terminalia: Epandrial lobe 2 x as long as wide (Figs. 2, 4, 7, 9), phallus tapered with single tip (Figs. 5–10).

Etymology: *Hesse*, honoring the late Dr. A.J. Hesse, from the South African Museum for his studies of Afrotropical Mydidae, with *mydas*, refers to the Mydidae.

Diagnosis: This new genus is placed in the Leptomydinae that currently includes two other Afrotropical genera (Bowden 1980), *Eremomidas* Semenov and *Leptomydas*, being most similar to *Leptomydas*. However, each epandrial lobe in *Hessemydas* is greater than 2 x as long as wide, whereas in *Leptomydas*, the each epandrial lobe is slightly wider than long (Richter and Ovshinnikova 1996). Both genera share the tapered phallus with a single tip.

Key to the species of *Hessemydas*

1. Abdomen shiny black; terga 1, 3, 4, and 5 with reddish brown posterior margins *H. seyrigi*
2. Abdomen brown to black brown; terga 1–7 with yellow posterior margins or black-brown with terga 2–7 with light brown posterior margins 3

3. Abdomen black-brown with terga 2–7 with light brown posterior margins; epandrial lobes, gonocoxites, phallus, and parameral sheath as Figs. 2–5 *H. tulear*
 Abdomen brown; terga 1–7 with yellow posterior margins; epandrial lobes, gonocoxites, phallus, and parameral sheath as Figs. 7–9 *H. parkeri*

***Hessemydas seyrigi* (Séguy), n. comb.**

Leptomydas seyrigi Séguy 1960: 154. Type locality: Madagascar, Behara.

Afroleptomydas seyrigi, Bowden 1980: 330.

Diagnosis: Séguy (1960) described *H. seyrigi* from a single male, and from his description, this species can be distinguished from the following two new species by the shiny black abdomen with terga 1, 3, 4, and 5 with reddish brown posterior margins. Repeated attempts to examine the holotype of *H. seyrigi* at the Museum National d'Histoire Naturelle, Paris were unsuccessful. A translation of the original description is given below:

Male. Head with long, black pilosity, mixed with some gray hairs on occiput and oral opening. Sides of the face are covered with thick yellow gray pollinosity. Proboscis and palps black. Antennae two times longer than the head in lateral view, the third segment thickened, spindle shaped and subequal to segment two. Mesonotum with a broad middle band of grayish yellow pollinosity, wider and white in color in the prescutellar region; plural margin grayish white, with long silver hairs. Pleuron and coxae shiny brownish black, with sparse white pilosity. Fore and middle legs reddish brown, hind legs brown, ventral surface yellow red, spine black. Pulvilli pale, claws reddish brown, tips black; dorsal surface of femur with white hairs. Halter reddish brown, tips tinged with brown or gray.

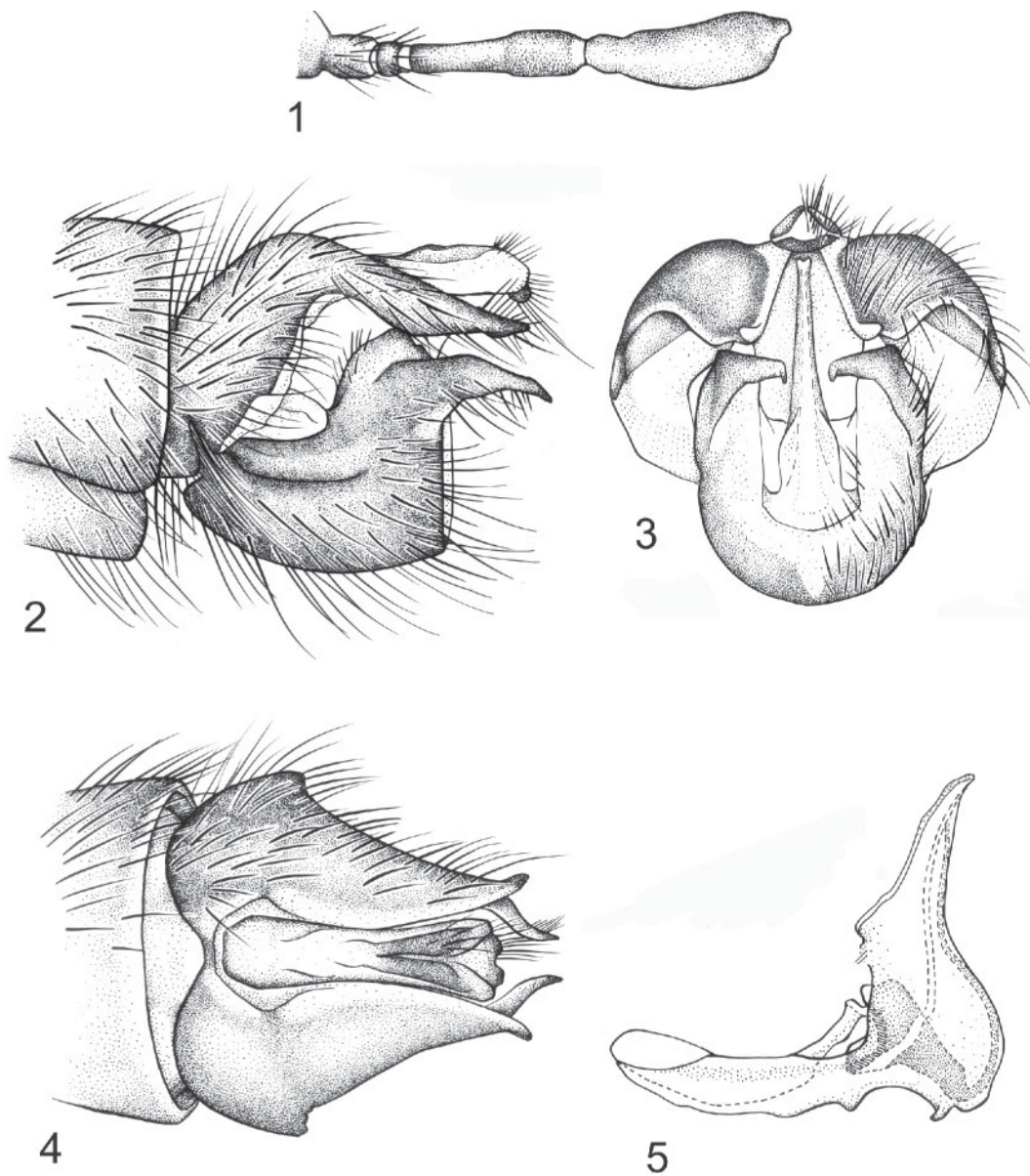
Abdomen shiny black, anterior segments with long white hairs, intermixed posteriorly with shorter dark hairs, terga 1, 3, 4, and 5 with reddish brown posterior margins; bulla reddish brown. Terminalia black with apical reddish brown hairs.

***Hessemydas tulear*, n. sp.**

(Figs. 1–5).

Diagnosis: *Hessemydas tulear* can be readily distinguished from both *H. seyrigi* and *H. parkeri* by the black-brown abdomen with distinctly defined light posterior edges of the terga 2–7, the longer proboscis and the narrow oral cavity. In the male, the form of the epandrial lobes, gonocoxites, phallus, and the parameral sheath (Figs. 2–5), will easily separate this species from *H. parkeri* (Fig. 6–10).

Description.— Male : Length of body 11.5–12 mm, length of wing 8.0–8.5 mm.



FIGURES 1–5. *Hessemydas tulear*, sp. nov. **1.** Antenna, lateral view. **2.** Male terminalia, lateral view. **3.** Male terminalia, caudal view. **4.** Male terminalia, dorsal view. **5.** Phallus, lateral view.

Head: Black, frons silver-gray pollinose, pilosity of face long, white; oral cavity narrow, triangular or narrowed dorsally; occiput with long pale yellow pilosity; postocciput with white pilosity. Labium black, extending anteriorly equidistant to pedicel, apical portion covered with stiff, erect, short pale yellow setae, basal portion with long, pale yellow setae ventrally; palpi brown, subequal to length to width of labium, covered with long,

white setae. Antennae black, except pedicel brown, gray pollinose, apicoflagellomere expanded apically, clavate, with apical knob containing pit with small spine (Fig. 1).

Thorax: Mesonotum dull black, gray pollinose, pair of submedian gray pollinose stripes converging anteriorly, marked by white short pilosity; lateral edges of scutum and notopleuron gray-white, with long white pilosity; prepostpronotal lobe enlarged, brown; anepisternum, anepimeron, and katepisternum polished black; scutellum and mediotergum gray pollinose, scutellum with large sculptured indentures on anterolateral corners; postpronotal lobe enlarged with long white pilosity; post alar callus brown, silver pollinose posteriorly. Wings hyaline, venation brown, typical for genus. Halter brown. Legs dark brown, covered with short, brown setae, tibiae and tarsal segments with a row of stiff brown spines ventrally, with apex, pulvilli, with yellow pollinose and a row of short setae ventrally; claws with apical 1/3 black; hind legs with two ventrolateral rows of thick, brown spines; thicker, erect, and arising from tubercles on femora; coxae with short, thin, stiff brown setae.

Abdomen: Black-brown with white medium length pilosity; tergum 2 with long white pilosity, bullae brown, with black line along anterior margin; tergum 3 with long white pilosity, dorsally and laterally; terga 2–7 with posterior margins light brown, pilosity pale yellow; sterna brown.

Male genitalia: Cercus light brown, with apical light brown setae; epandrium dark brown covered with pale yellow pilosity, lobes extend medially, narrowly pointed, margins thin (Figs. 2–4). Hypandrium dark brown, covered with dense pale yellow pilosity. Gonocoxite narrowly pointed, extending caudally, apical 1/3 curved medially, dorsal edge thin, basally with a thin round lobe dorsal to margin (Figs. 2–4). Parameral sheath thick basally (Fig. 5), with a single opening apically; ejaculatory apodeme long, narrow, ovate apically; parameres thick, sculptured; caudal process thin, long, pointed apically, extended parallel to ejaculatory apodeme enclosing nearly all of ejaculatory apodeme (Fig. 5).

Female: Head black posteriorly on vertex and around ocelli. Pilosity of head short, less dense than male. Mesonotum black, margins brown. Wings hyaline; all veins surrounded by brown coloration, discal cell wholly brown; intersection of R4 and R5 with a small accessory vein. Abdomen with sparse short golden pilosity, denser posteriorly; with posterior dark colored bands posteriorly on each tergum. Acanthophorites (tergum 10) with a single row of thick, blunt translucent brown spines. Sternum 10 bulbous, divided medially; with thin brown bristles laterally. Cercus covered with short thin erect brown setae.

Material examined: Holotype male from MADAGASCAR: Tulear Prov., Ifay, 18 km N Tulear, 20 m, hand netted in spiny forest, 13 IX 2001, M. E. Irwin, F. D. Parker, & R. Harin'Hala. Paratypes. Same as holotype but Beza Mahafaly, Parcel II, Malaise in spiny forest, 200 m, 1–8 II 2002, R. Harin'Hala, M. E. Irwin, 23°41.19'S 044°35.45'E, one male; Hotel Paradisia, coastal dunes, Malaise trap, 9 m, M. E. Irwin, F. D. Parker, R. Harin'Hala, 17–24 II 2002, 23°10.78'S 043°37.01'E, 2 males; 24 II 3-III-2002, 2 male; 15–25 IV 2002,

2 males; 9 m, 3–9 III 2002, 1 male; 20 m, 3–9 III 2002, 3 males; 9–16 III 2002, 9 m, M. E. Irwin, F. D. Parker, R. Harin'Hala, 4 males; 23–28 III 2002, R. Harin'Hala, M. E. Irwin, 3 males; 25 IV–6 V 2002, 28 males; 26 VI–5 VI 2002, 2 males; 25 IV–6 V 2002, 3 males; 2 ?; Mikea Forest, 4 km NW Manombo, Malaise in deciduous forest, 70 m, 21–28 X 2002, 22°54.22'S 043°28.53'E, 12 males; 28–30 X 2002, 2 males; 3–13 X 2002, 8 males; 13–21 X 2002, 6 males.

Etymology: Refers to the Tulear Province, Madagascar, where the specimens were collected.

***Hessemydas parkeri*, sp. nov.**

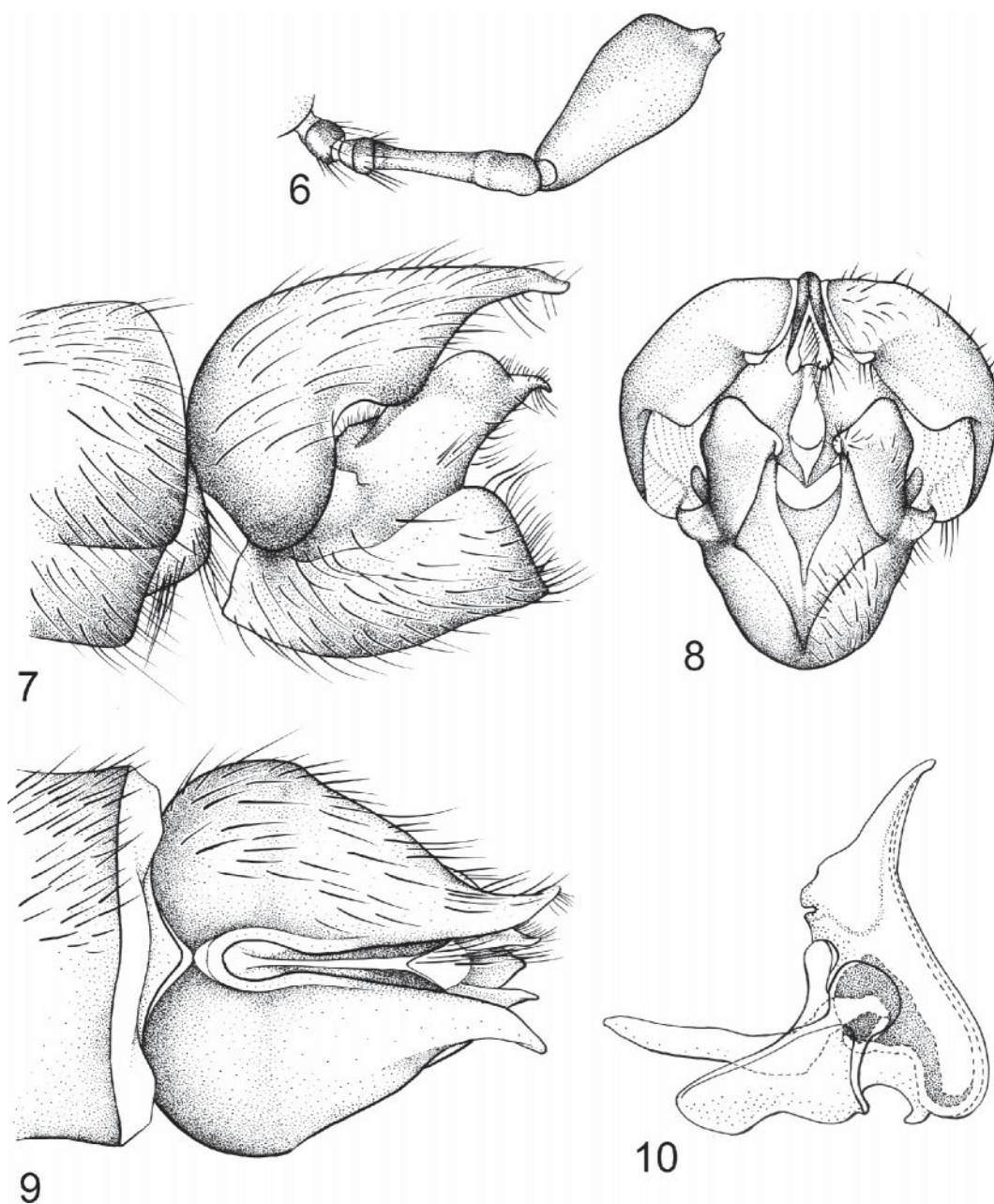
(Fig. 6–10).

Diagnosis: *Hessemydas parkeri* can be readily distinguished from *H. tulear* by the generally lighter brown coloration with less distinctly defined light colored bands along the posterior edges of the terga, the short proboscis, and the wide oral cavity. In the male, the shape of the epandrial lobes, gonocoxites, phallus, and the parameral sheath (Figs. 7–9) are distinctive.

Description.— Male : Length of body 15–15.5 mm, length of wing 10–10.5 mm.

Head: Black, face, oral cavity, oral margin brown silver gray pollinose; polished or pollinose, thin around ocelli, frons, face, and oral cavity; pilosity of face long, white; occiput and postocciput with white pilosity; labium brown, extending anteriorly equidistant to face, base silver pollinose, apical portion covered with small, thin erect brown pilosity, basal portion with long, thin, brown pilosity, ventrally and laterally; palpi brown, covered with long white pilosity, length 1/2 width of labium. Antennae brown to dark brown, apicoflagellomere clavate, widest 2 x width of base, apically with a knob containing a pit with a small spine (Fig. 6).

Thorax: Brown, mesonotum tinted gray pollinose, with a pair of median black pollinose stripes converging posteriorly, and a shorter pair of submedian black pollinose stripes; lateral edges of scutum and notopleuron gray-white, with long white pilosity; prepostpronotal lobe enlarged, light brown; plurae polished brown with silver gray pollinosity on meron, dorsal edge of metakatepisternum, dorsal edge of katepimeron, and dorsal edge of katepisternum; ventral lobe of anepimeron and katetergum with white pilosity; scutellum and mediotergum white pollinose; scutellum, postpronotal lobe with sparse white pilosity; postalar callus brown with silver pollinose posteriorly. Wings hyaline, venation brown, typical of genus. Halter brown. Legs brown, covered with short, stiff, brown setae, tibiae and tarsal segments with a row of stiff brown spines ventrally, pulvilli, with yellow pollinosity; claws with apical 1/3 black; hind legs with two ventrolateral rows of thick, stiff, brown spines; thicker, erect and arising from tubercles on femora; coxae with short, thin, stiff brown setae.



FIGURES 6–10. *Hessemydas parkeri*, sp. nov. **6.** Antenna, lateral view. **7.** Male terminalia, lateral view. **8.** Male terminalia, caudal view. **9.** Male terminalia, dorsal view. **10.** Phallus, lateral view.

Abdomen: Brown covered with stiff, brown pilosity, with posterior margins of terga 1–7 yellow, lateral margins of terga with punctuations; terga 1–2 with long white pilosity, bullae brown, outlined in black; gray pollinose tint on some terga; sterna brown, posterior margins yellow.

Male terminalia: Brown covered with white pilosity with thin silvery pollinose; epan-drial lobes long, pointed extending medially, diverging laterally at apex (Figs. 7–9); lateral edge with triangular lobe; gonocoxite with apex curving posteriorly near midline, forming small point, apex with short, dense erect setae, lobe of dorsal margin enlarged and cupped anteriorly (Figs. 7–9); cercus light brown, with apical light brown setae; epandrium dark brown covered with pale yellow setae. Phallus with ejaculatory apodeme narrow, pointed apically; parameral sheath thick, sculptured enclosing 3/4–2/3 of ejaculatory apodeme (Fig. 10).

Female: Head black posteriorly on vertex and around ocelli. Mesonotum black, brown along margins. Abdomen with sparse short golden pilosity, denser posteriorly; with posterior dark colored bands posteriorly on each tergum. Wings hyaline; all veins except A1 and M3 surrounded by brown coloration; intersection of R4 and R5 with a small accessory vein. Acanthophorites (tergum 10) with a single row of thick blunt, opaque, black spines. Sternum 10 bulbous, divided medially; with thin brown setae laterally. Cercus covered with short thin erect brown setae.

Material examined: Holotype male from MADAGASCAR: Tulear Prov., Beza Maha-faly Reserve, Malaise trap in deciduous forest, 165 m, 9–14 IX 2001, 23°39.39'S, 044°37.75'E, M. E. Irwin, F. D. Parker, & Harin'Hala. Paratypes. Same locality as holo-type but hand netted, M. E. Irwin, F. D. Parker, R. Harin'Hala, 13 IX 2001, 1 male; 9–14 X 2001, 1 male; M. E. Irwin, F. D. Parker, R. Harin'Hala, 5 X 10–XI 2001, 1 male; Parcel II, nr. Bellevue, 21–28 XI 2001, R. Harin'Hala and M. E. Erwin, 2 males; 11–18 XII 2001, 11 males; Parcel I, 25 XII 2001–2 I 2002, 11 males; 1–8 II 2002, 3 males; Parcel II, 200m, 23°41.19'S, 0044°35.45'E, 1–8 II 2002, 9 males; Parcel I, 8–15 II 2002, 7 males; 15–22 II 2002, 14 males; Parcel I, 22 II–1 III 2002, 10 males; 165 m, R. Harin'Hala and M. E. Erwin, 23°39.39'S, 0044°37.75'E, 1 I–7 III 2002, 9 males; Parcel I, 7–14 III–2002, 12 males; Parcel I, 14–22 III 2002, 5 males; Parcel I, 28 VII 9–VII 2002, 7 males; M. E. Irwin, F. D. Parker, R. Harin'Hala, 20 IX–11 X–2002, 5 males; Parcel I, 5–11 X 2002, 10 males; Parcel I, M. E. Irwin, F. D. Parker, R. Harin'Hala, 4 males; 4 km NW Manombo, Malaise trap in deciduous forest, 3–13 X 2002, M. E. Irwin, F. D. Parker, R. Harin'Hala, 1 male; M. E. Irwin, F. D. Parker, R. Harin'Hala, 5–17 X 2002, 23 males, 3 females; M. E. Irwin, F. D. Parker, R. Harin'Hala, 17 X 2002, 9 males, 3 females; 11–20 X 2002, 6 males; 4 km NW Manombo, Malaise trap in deciduous forest, 13–21 X 2002, 1 male.

Etymology: The patronym honors Frank D. Parker.

***Mahafalymydas*, n. gen.**

Type species: *Mahafalymydas wiegmanni* n. sp.

Etymology: *Mahafaly*, referring to the Mahafaly people of Madagascar, with *mydas* referring to the Mydidae.

Head: Face bulbous, protruding as far as scape, proboscis (labella) vestigial; apicoflagellomere globular, subequal in length to scape, pedicel, and basoflagellomere (Fig. 11).

Wing: M1 ending in R1 closing cells r4, r5, m1, CuA1 broadly curved.

Male terminalia: Epandrium reduced; gonocoxites extended posteriorly, divided apically; phallus short, thick, bifid apically (Figs. 13–15, 18–20).

Remarks: This new genus is included in the Syllegomydinae until a phylogenetic revision of the higher classification of the African Mydidae can be completed.

***Mahafalymydas wiegmanni*, n. sp.**

(Figs. 11–17)

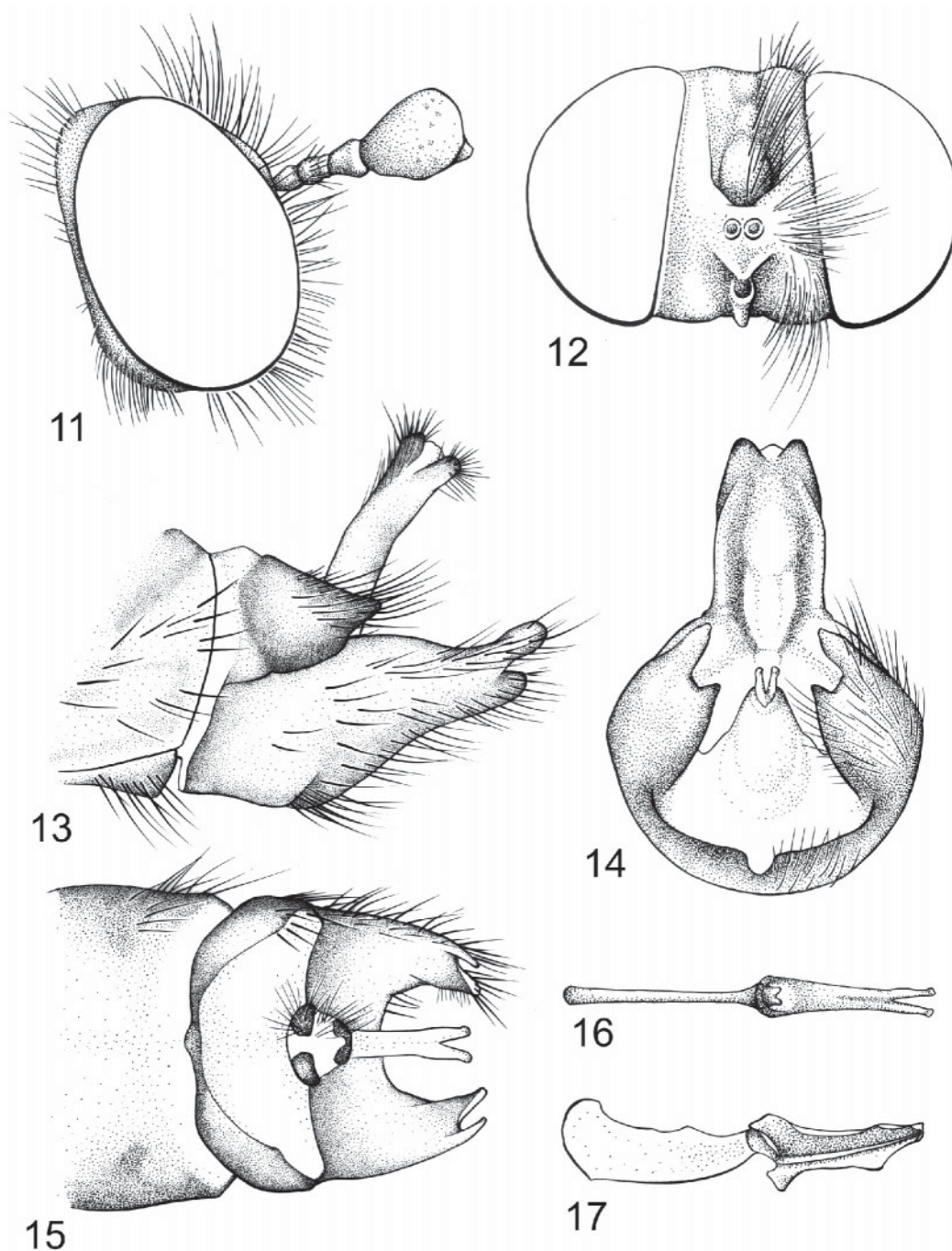
Diagnosis: The absence of short brown setae from dorsal portion of occiput, conical palpi, gray abdomen, and shallowly bifid phallus with closely appressed arms (Figs. 14–16) of *M. wiegmanni* easily distinguish it from *M. tuckeri* n. sp.

Head: Black, silver gray pollinose, polished around ocelli and on face, with long, white pilosity, denser and erect on face, hairs absent from frons and dorsal aspect of occiput. Face bulbous, protruding as far as scape, proboscis (labellum) vestigial, brown, silver gray pollinose; palpi 2 x length of proboscis, conical, similar in coloration to proboscis, with 3–4 stiff, brown setae ventrally, subequal to 3/4 length of palps.

Antennae: Scape dark brown, apically silver gray pollinose; pedicel and flagellum brown golden pollinose; pedicel with a ring of stiff, golden setae, long laterally, short medially; basoflagellomere subequal in length to scape and pedicel, widest distally; apicoflagellomere globular, subequal in length to preceding segments combined, 2 x diameter of other segments, with a weak, sculptured apicolateral ridge, with an apical tubercle, medial to ridge, containing a pit with a small, stiff, brown spine (Fig. 11).

Thorax: Black dorsally, dark brown ventrally, silver gray pruinose; postpronotal lobe pilose; mesonotum with median, divided stripe of dark gray pollinose, with two lateral dark gray stripes, with a pair of dark gray pollinose spots on posterolateral corners, white pilose on light gray portions; postpronotal lobe, katatergite, and posteroventral lobe of anepimeron with long white pilosity; meron with short brown pilosity. Coxae brown, silver gray pollinose, with short brown setae. Legs dark brown covered with short, brown setae; tibiae with 2–4 short thick, brown spines ventrally at apex, fore- and midfemora with setae long posteriorly; basal 1/3 of femora light brown also near joints of femora, tibiae, and basitarsus light brown; fore- and midtarsi with basal four tarsomeres short, subequal, apical tarsomere 3 x length of other tarsomeres; hind tarsi with basal tarsomere subequal to middle three segments combined, apical tarsomere subequal to preceding two segments; claws black, basal 1/4 brown, basal 1/2 brown pollinose; pulvilli yellow.

Abdomen: Brown with a narrow, posterior yellow band on margins of terga; silver gray pollinose, dense on terga, thin on sterna, terga and sterna covered with short, brown pilosity; tergum 1 with long erect white pilosity.



FIGURES 11–17. *Mahafalymydas wiegmanni*, sp. nov. **11.** Head, lateral view. **12.** Head, anterior view (antennae removed). **13.** Male terminalia, lateral view. **14.** Male terminalia, caudal view. **15.** Male terminalia, dorsal view. **16.** Phallus, dorsal view. **17.** Phallus, lateral view.

Male terminalia: Brown, externally thin silver gray pollinose, and short, brown pilosity; cercus subequal in length to gonocoxites (Figs. 13–14); epandrium reduced (Figs. 13–15); hypandrium reduced, with a deep, medial emargination, fused to gonocoxites (Figs. 13–15), gonocoxites extended posteriorly, divided apically, ventral arm shorter; phallus sheath short, thick, bifid apically, narrowly separated, with a lateral knob on each arm (Figs. 16–17); ejaculatory apodeme subequal in length to phallus.

Material examined: Holotype male from Madagascar: Tulear Prov., Ifay, 18 km N Tulear, 20 m. hand netted in spiny forest, 13 IX 2001, M. E. Irwin, F. D. Parker, & Harin'Hala, 23.1885°S, 43.6239°E. Paratypes. Same locality 12 males; Hotel Paradisia, coastal dunes, Malaise trap, 20 m, R. Harin'Hala, M. E. Irwin, 25 IV–6 V 2002, 23°10.78'S 043°37.01'E, 44 males; 9m, 24 II–3 III 2002, M. E. Irwin, F. D. Parker, & Harin'Hala, 4 males.

Etymology. Named in honor of Dr. Brian M. Wiegmann, North Carolina State University, for his contributions to the study of Diptera.

***Mahafalymydas tuckeri*, n. sp.**

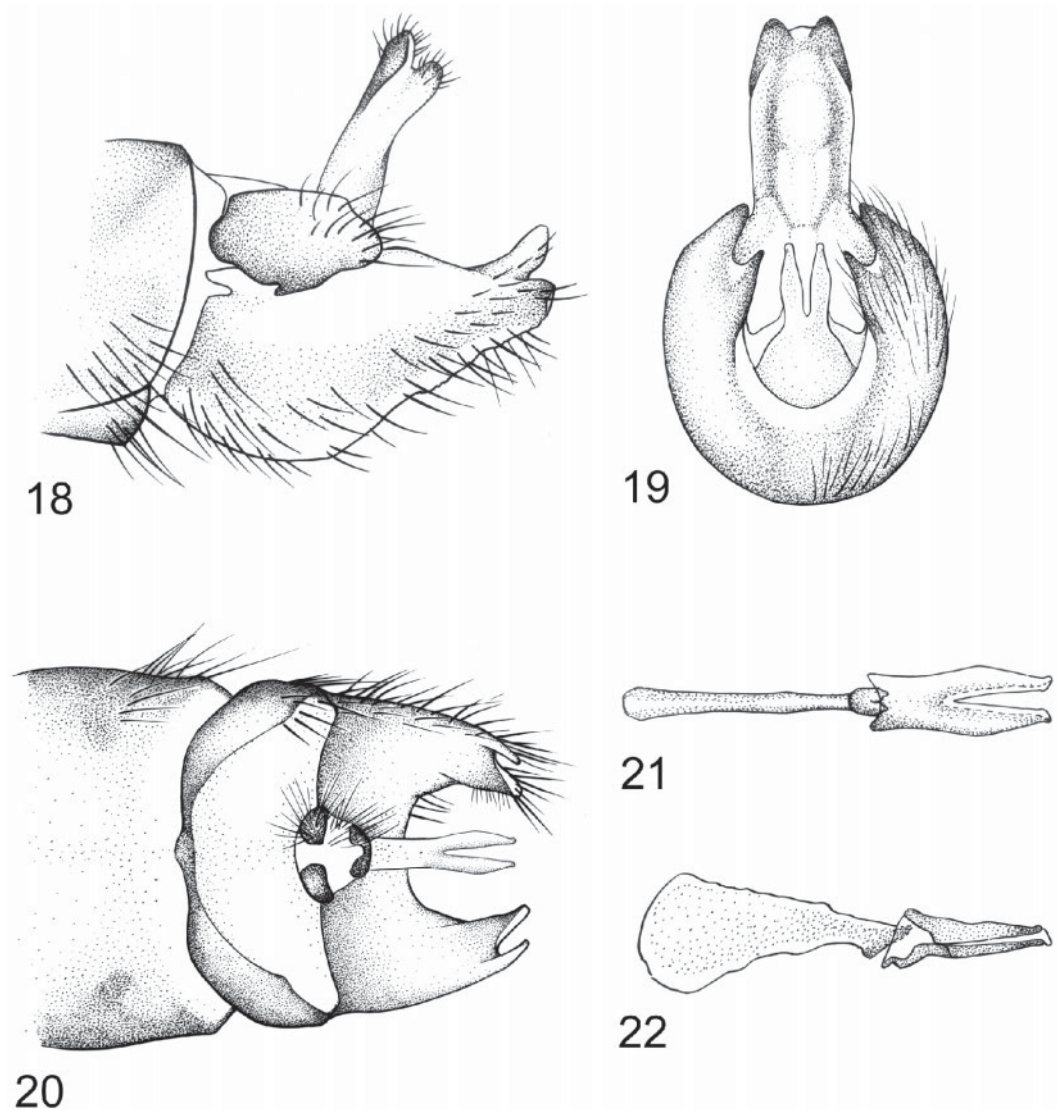
(Figs. 18–22).

Diagnosis: The short brown setae present on dorsal portion of occiput, sigmoid palpi, brown abdomen, and deeply bifid phallus separates *M. tuckeri* from *M. weigmanni*.

Head: Black, dense, silver gray pollinose, brown on vertex and frons; polished around ocelli and on face, covered with long, white pilosity, denser and erect on face, hairs absent from frons and dorsal aspect of occiput. Face bulbous, protruding as far as scape, proboscis (labellum) vestigial, brown, silver gray pollinose, palpi 2 x length of proboscis, conical, similar in coloration to proboscis, subequal to 3/4 length of palpus. Antennal scape dark brown, apically silver gray pollinose; pedicel and flagellum dark brown golden pollinose; pedicel with a ring of stiff, golden setae, long laterally, short medially; basoflagellomere subequal in length to scape and pedicel, widest distally; apicoflagellomere globular, subequal in length to scape, pedicel, and basoflagellomere, 2 x diameter of other segments, with a sculptured, apicolateral ridge, with an apical tubercle medial to ridge containing a pit with a small, stiff, brown spine.

Thorax: Black dorsally, dark brown ventrally, dense silver gray pollinose; postpronotal lobe pilose; mesonotum with median, divided stripe of dark gray pollinose, with two lateral dark gray stripes, with pair of dark gray pollinose spots on posterolateral corners, white pilosity on light gray portions; postpronotal lobe, katatergite with long white, erect pilosity; meron with short, brown pilosity. Coxae brown, silver gray pollinose, with short, brown pilosity. Legs dark brown covered with short, brown pilosity; tibiae with 2–4 short thick, brown spines ventrally at apex; fore- and midfemora with setae long posteriorly; basal 1/6 of femora light brown; joints of femora and tibia light brown, fore- and midtarsi with basal four tarsomeres short, subequal, basitarsus apical tarsomere 3 x length of other

tarsomeres; hind tarsi with basal tarsomere subequal to middle three segments combined, apical tarsomere subequal to preceding two segments; claws brown, apical 1/3 black, basal 2/3 brown covered with thin, brown pollinose; pulvilli yellow.



FIGURES 18–22. *Mahafalymydas tuckeri*, sp. nov. **18.** Male terminalia, lateral view. **19:** Male terminalia, caudal view. **20.** Male terminalia, dorsal view. **21.** Phallus, dorsal view. **22.** Phallus, lateral view.

Abdomen: Brown covered with silver gray pruinose, dense on terga, thin on sterna; terga and sterna covered with short, brown pilosity; tergum 1 with long, white pilosity laterally; terga each with a narrow, light brown posterior band; terga 1–4 with a narrow, yellow band along posterior margin posterior to light brown band.

Male terminalia: Brown, externally thin silver gray pollinose, and short, brown pilosity; cercus subequal in length to gonocoxites (Figs. 18–20); epandrium reduced (Figs. 18, 20); hypandrium reduced, with a deep, medial emargination fused to gonocoxites, gonocoxites extended posteriorly, divided apically (Figs. 21–22); arms subequal, phallus sheath short, thick, bifid apically, arms separated, long curving with a lateral knob on each arm; ejaculatory apodeme subequal in length to phallus (Figs. 21–22).

Material examined: Holotype male from Madagascar: Tulear Prov., Ifay, 18 km N Tulear, 20 m, hand netted in spiny forest, 13 IX 2001, M. E. Irwin, F. D. Parker, & R. Harin'Hala, 23.1885° S, 43.6239° E. Paratypes. Same locality and date as holotype 11 males; same locality as holotype but 12 X 2001, 2 males; Hotel Paradisia, Malaise trap in coastal dunes, 25 IV 2002, 20 m, R. Harin'Hala and M. Irwin, 23°10.78 S, .043°37.01 E, 1 male; Beza Mahafaly Preserve, 165 m, Malaise trap in deciduous dry forest, M. E. Irwin, F. D. Parker, R. Harin'Hala, 20 IX/11–X 2002, 23°39.39'S, 0.044°37.5'E, 1 male.

Etymology: Named in honor of Tucker Lee Carr, the son of the junior author.

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References

- Bequaert, M. (1961a) Contribution a la connaissance morphologique et a la classification des Mydidae (Diptera). *Bulletin Institut Royal des Sciences Naturelles de Belgique*, 37, 1–18.
- Bequaert, M. (1961b) Mydidae palearctiques nouvelles ou peu connus. *Bulletin Institut Royal des Sciences Naturelles de Belgique*, 37, 1–36.
- Bowden, J. (1980) Family Mydidae. In Catalogue of the Diptera of the Afrotropical Region, Crosskey, R. W. (ed.). British Museum (Natural History), London, pp. 325–333.
- Hesse, A.J. (1969) The Mydidae (Diptera) of southern Africa. *Annals of the South African Museum*, 54, 1–388. Plates 1–2.
- Hesse, A.J. (1972) New Mydidae (Diptera) from the Namib Desert and South-western Africa. *Annals of the South African Museum*, 60, 109–171.
- Papavero, N. and Wilcox, J. (1974) Studies of Mydidae (Diptera) systematics and evolution. I. A preliminary classification in subfamilies with the description of two new genera from the Oriental and Australian regions. *Arquivos de Zoologia, São Paulo*, 25, 1–60.
- Richter, V.A. (1997) Family Mydidae. Papp, L. & Darvas, B. (Eds.), *In Contributions to a manual of Palearctic Diptera*. Volume 2. Science Herald, Budapest, pp. ??-?? (please add!)
- Richter, V.A. & Ovtshinnikova, M. (1996) On the structure of male and female genitalia in Palearctic mydids (Diptera, Mydidae). *International Journal of Dipterological Research*, 7, 95–107.
- Séguy, E. (1960) Un nouveau au *Leptomydas* de Madagascar (Insecta Diptera: Mydidae). *Bulletin du Muséum d'Histoire Naturelle*, 2e Serie, 32, 154–156.

- Stuckenberg, B.R. (2002) A new genus and species of Vermileonidae (Diptera: Brachycera) from Madagascar. *Tijdschrift voor Entomologie*, 145, 1–8.